

WHAT IS CLAIMED IS:

1. A coordinate detecting method for a touch panel, comprising the steps of:

5 (a) converting a plurality of X-axis I/O ports and a plurality of Y-axis I/O ports respectively to form a plurality of X-axis scanning wires and a plurality of Y-axis scanning wires of the touch panel by an orthogonal method;

(b) transmitting polling signals to the X-axis I/O ports in sequence, which are then transmitted to the X-axis scanning wires;

10 (c) storing a plurality of X-axis detection signals from a sensor touching the touch panel according to the polling signals;

(d) determining a largest X-axis detection signal and a second largest X-axis detection signal, then determining an X coordinate position of the sensor on the touch panel;

15 (e) transmitting polling signals to the Y-axis I/O ports in sequence, which are then transmitted to the Y-axis scanning wires;

(f) storing a plurality of Y-axis detection signals from the sensor touching the touch panel according to the polling signals; and

20 (g) determining a largest Y-axis detection signal and a second largest Y-axis detection signal, then determining a Y coordinate position of the sensor on the touch panel.

2. The coordinate detecting method according to Claim 1, wherein the number of X-axis I/O ports or the number of Y-axis I/O ports is an odd number N, and the maximum number of the X-axis scanning wires or the maximum number of the Y-axis scanning wires is  $C(N,2)+1$ .

3. The coordinate detecting method according to Claim 1,

wherein the number of X-axis I/O ports or the number of Y-axis I/O ports is an even number  $N$ , and the maximum number of the X-axis scanning wires or the maximum number of the Y-axis scanning wires is  $C(N,2) - N/2 + 2$ .

5           4.     A coordinate detecting system for a touch panel comprising:

          a converting means for converting a plurality of X-axis I/O ports and a plurality of Y-axis I/O ports respectively to form a plurality of X-axis scanning wires and a plurality of Y-axis scanning wires of the touch panel by orthogonal method;

10           a control means for transmitting polling signals to the X-axis I/O ports and the Y-axis I/O ports in order, the X-axis scanning wires and the Y-axis scanning wires having the responding polling signals;

          a sensor for detecting a plurality of X-axis detection signals and a plurality of Y-axis detection signals according to the polling signals;

15           a database for storing the X-axis detection signals and the Y-axis detection signals from the sensor; and

          an arithmetic means for determining a largest X-axis detection signal, a second largest X-axis detection signal, and determining a largest Y-axis detection signal and a second largest value Y-axis detection signal, then  
20           determining an X coordinate position and a Y coordinate position of the sensor on the touch panel.

          5.     The coordinate detecting system according to Claim 4, wherein the number of X-axis I/O ports or the number of Y-axis I/O ports is an odd number  $N$ , and the maximum number of the X-axis scanning  
25           wires or the maximum number of the Y-axis scanning wires is  $C(N,2) + 1$ .

          6.     The coordinate detecting system according to Claim 4, wherein the number of X-axis I/O ports or the number of Y-axis I/O ports

is an even number  $N$ , and the maximum number of the X-axis scanning wires or the maximum number of the Y-axis scanning wires is  $C(N,2)-N/2+2$ .

5        7.    The coordinate detecting system according to Claim 4, wherein the sensor comprises an antenna and a demodulation circuit, the antenna being used to detect the X-axis detection signals and the Y-axis detection signals, and the demodulation circuit being used to demodulate the X-axis detection signals and the Y-axis detection signals, and to  
10        transmit the X-axis detection signals and the Y-axis detection signals to the database.

8.    The coordinate detecting system according to Claim 7, wherein the sensor further comprises a shielding housing for covering the demodulation circuit to isolate the external noise.